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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,132	03/26/2004	Sigmund Frigstad	135270 (SPLG 1044)	8833

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EXAMINER	
CWERN, JONATHAN	
ART UNIT	**PAPER NUMBER**
3737	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/810,132	FRIGSTAD ET AL.	
	Examiner	Art Unit	
	Jonathan G. Cwern	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 8/29/07 have been fully considered but they are not persuasive.

2. In regards to applicant's arguments stating that Brady does not teach providing automated instructions, examiner respectfully disagrees. Brady teaches providing interpretations from previous users via the database. These interpretations are then used by the user to make a determination as to how best to handle the current situation. Further, these interpretations can be used to teach individuals. Therefore it is providing the user with instructions. They may not be an exact "cookbook" type process, however the applicant has only claimed "providing automated instructions" and therefore the interpretations fall under the definition of an instruction. The same applies applicant's argument regarding "generate a suggested action". The interpretations are suggestions provided to the user. They provide additional information for the user to take their next action. Therefore the interpretations are suggesting an action. Therefore, examiner withholds previous rejection dated 6/8/07 and repeated below. In addition, *assuming arguendo* that Brady fails to show the invention as claimed, the examiner has provided an additional 103 rejection (in view of Schultz US 6746329) based on other possible interpretations of the claims. This additional rejection can be found after the repeated previous rejections below, under the Claim Rejections – 35 USC 103 heading.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-25, and 27-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Brady et al. (US 7200612, filed: 3/23/01).

3. Brady shows the invention as claimed, in the text as:

4. Pertaining to claims 1, 12, and 21, a knowledge-based diagnostic imaging system, comprising: diagnostic equipment for analyzing a patient to obtain a new patient data set containing at least one of MR data, CT data, ultrasound data, x-ray data, SPECT data and PET data, said diagnostic equipment automatically analyzing said new patient data set (accepts input of data acquired from instrumentation, the instrumentation being diagnostic equipment, the data is then processed, column 3, lines 35-40); a database containing past patient data sets for previously analyzed patients

(column 3, lines 25-34), said past patient data sets containing data indicative of physiologic parameters with respect to previously analyzed patients (in the example, the physiologic parameters can be stiffness, muscle tone, wall velocity values, etc of the heart, column 3, line 65 through column 4, line 10); a network for interconnecting said diagnostic equipment and said database to support access to said past patient data sets (column 3, lines 25-34) ; and a controller for accessing said database based on said new patient data set (the database can be accessed on the basis of the processed dataset, the part of the system that performs this action can be called a controller, column 3, lines 58-65).

5. Pertaining to claims 2, 13, and 22, said diagnostic equipment is an ultrasound system and said new patient data set contains at least one ultrasound image (ultrasound images of the heart are used, ultrasonic images are acquired by an ultrasound system, column 3, line 66).

6. Pertaining to claims 3, 14, and 23, said physiologic parameter is for the myocardium and said controller accesses said database based on at least one of an AV-plane, tissue velocity, systolic transition, myocardium period length, hypertrophy, diastolic point, heart size and heart shape (wall velocity values, etc., column 4, lines 1-10).

7. Pertaining to claims 4, 15, and 24, said controller accesses said database based on at least one of contraction patterns and velocity profiles of the myocardium of the previously analyzed patients (as stated earlier, the controller can access the database

on the basis of the processed data, in this case the data being wall velocity values, column 4, lines 1-10).

8. Pertaining to claims 5, 19, and 27, said diagnostic equipment highlights abnormalities in an image generated from said new patent data set (overlay on the image contour is a highlight, column 5, line 65-67).

9. Pertaining to claims 6, and 28, said diagnostic equipment compares new and past patient data sets (data comparison, column 4, lines 53-56) to determine whether additional information is needed (the system can seek out additional information, column 6, lines 8-11).

10. Pertaining to claims 7, and 16, said controller compares at least one of said past patient data sets to said new patient data set (data comparison, column 4, lines 53-56).

11. Pertaining to claims 8, and 17, diagnostic equipment includes an ultrasound machine for generating a new patient image from said new patient data set (ultrasound images of the heart are used, ultrasonic images are acquired by an ultrasound system, column 3, line 66) and for identifying said physiologic parameter based on said new patient image (various physiological parameters are identified such as wall velocity, column 4, lines 1-10).

12. Pertaining to claims 9, and 18, diagnostic equipment automatically measures values for said physiologic parameter from said new patient data set (column 4, lines 1-10).

13. Pertaining to claims 10, and 20, new and past patient data sets represent new and past patient images, respectively, said controller identifying matches between said new and past patient images (column 7, lines 29-33).

14. Pertaining to claim 11, controller further comprising a processor located separate and remote (remote location, column 5, lines 36) from said diagnostic equipment (processing software indicates the presence of a processor, column 7, lines 24-29), said processor comparing said new patient data set to said past patient data sets to identify matches (column 7, lines 29-33).

15. Pertaining to claim 25, diagnostic equipment is located at a primary health care site (column 4, lines 48-56).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brady et al. (US 7200612, filed: 3/23/01) in view of Giger et al. (US 2001/0043729, filed: 2/2/01).

19. Brady shows the invention substantially, as applied to claims 1-25, and 27-28 in the preceding rejection under 35 USC 102(e).

20. Brady fails to show, with respect to claim 26, diagnostic equipment determines where said physiologic parameter for the new patient is abnormal.

21. Giger teaches, with respect to claim 26, diagnostic equipment determines where said physiologic parameter for the new patient is abnormal (the computer interprets the image to determine if a malignancy is present, malignancy being an abnormality [0009]).

22. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have processed the image to determine if an abnormality is present, as taught by Giger, in the system of Brady, with the motivation that determining if an abnormality is present will provide the user of the system with a very useful piece of information which will allow them to better diagnose the patient, and thus increase the chances of success in treating the patient. There is a reasonable expectation of success to combine these references because both are directed towards imaging systems, which access a database of ultrasound images to assist a user in diagnosing a patient.

23. Claim s 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brady et al. (US 7200612, filed: 3/23/01) in view of Giger et al. (US 2001/0043729, filed: 2/2/01) and further in view of Schultz (US 6735329).

24. Brady and Giger show the invention substantially in the combinations above.

25. Brady and Giger fail to show, providing automated instructions and generating a suggested action.

26. Schultz shows, providing automated instructions and generating a suggested action (the steps taken during a particular procedure can be shown to the user, and a recommendation of the best step to take can be made, column 4, line 30-column 5, line 55).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have provided an instruction or suggest an action to a user as taught by Schultz, with the motivation that this will provide extra assistance to the user in case the user forgets which step to take next, or to a user who may simply be unsure of what step to take next, or even to a new user. Providing instructions will ensure that the user knows exactly what to do next in order to assess or improve the patient's health, thus eliminating possible errors that the user could make in being unsure of how to act. There is a reasonable expectation of success to combine these references, because they are related to accessing libraries of medical information to aid a user.

Conclusion

27. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Cwern whose telephone number is 571-270-1560. The examiner can normally be reached on Monday through Friday 9:30AM - 6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JC
10/18/07